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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/961,061	09/24/2001	Hirohisa Nakano	110662	5208

25944 7590 08/26/2002

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EXAMINER

SEVER, ANDREW T

ART UNIT PAPER NUMBER

2851

DATE MAILED: 08/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/961,061

Applicant(s)

NAKANO ET AL.

Examiner

Andrew T Sever

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 1-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the concave portion formed on the outside of the optical component case must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Although 47B is specified as the concave portion it is not drawn as a concave portion. Since concave has a very definite meaning, the drawings need to reflect that meaning or else concave needs to be deleted from claim 9.

Claim Objections

2. All the claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

For example; claim 1 reads in part "a projecting optical system that enlarges and projecting the optical image formed by the electric optical device;" (underline added).

The word "projecting" is obviously not the right tense, the correct tense being "projects".

These types of grammatical errors are found throughout claim 1 and separately in many of the dependent claims. All of the claims should be checked for proper grammar.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 3, 6-9 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Claim 3 reads "the cross section of the exhaust duct has a larger diameter along the inside of the casing than the diameter in a direction orthogonal with the inside of the casing." This is indefinite as it is not known where in the projector the exhaust duct would not have a diameter that is in a direction orthogonal to at least one side of the casing, since the duct is completely surrounded by the casing and therefore all of it is orthogonal to at least one part of the casing and also parallel to another part of the casing. Since it is unclear what this means, claim 3 will not be further examined on its merits.

Claim 6 does not make any sense. The first part of the claim appears to state that an opening is provided on the outside of the case, which is inherent. However the claim goes on to read that the optical components are accommodated on the same side, which would also put them outside of the case, which makes little sense. Since it is unclear what this means, claim 6 will not be further treated on its merits.

Claim 7 reads in part "the centrifugal fan is disposed on the exhaust opening with the air intake of the centrifugal fan being faced, and" (underline added.) It is unknown what "being faced" means or perhaps more importantly it is not specified what the centrifugal fan is being faced towards. The rest of the claim is also difficult to understand. Since it is unknown what the centrifugal fan must face, claim 7 will not be further treated on its merits.

Claims 8 and 9 are dependent on claim 7 and are therefore indefinite for the reasons claim 7 is indefinite and also will not be treated further on their merits.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

7. Claims 1, 4, and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Takamatsu (US 6,254,238.)

Takamatsu teaches in figure 3 a projector comprising a light source (4), an electrical optical device (6) that modulates the light irradiated from the light source (4) in accordance with image information to form an optical image, and a projection optical

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system (20) that enlarges and projects the optical image formed by the electrical optical device. A casing (inherent and indicated by 18) is provided that accommodates the light source, the electrical optical device and the projection optical system. A centrifugal fan disposed around the light source that inhales air by a rotation thereof and that discharges the air in tangential direction of the rotation. (As nearly as can be understood by the examiner, this part of claim 1 reads on fan 1 in figure 3 of Takamatsu. The fan is around the light source and intakes air directly from the light source as well as from the optical components.) An exhaust duct (30) is accommodated in the casing and the exhaust duct has a first end connected to an air discharge hole of the centrifugal fan (1) and a second end connected to an exhaust hole (3). The exhaust duct has one bent portion that appears to be bent at an angle that is less than 45 degrees as is claimed in applicant's claim 4. (Bent portion is the portion where the exhaust duct becomes larger, directly underneath the arrow for the "30 OUTLET DUCT" part indicator.) Takamatsu teaches in column 6 lines 62-67 that the direction of the outlet on the case can be changed, which would include having the exhaust hole formed at the front of the casing for the projecting optical system as shown in figure 1, where outlet 1b is facing the same direction as projecting lens 20. A intake duct (cooling duct 2) is also provided between the optical component case and the exhaust duct (outlet duct 30) to introduce components inside the optical component case to an air intake of the centrifugal fan (1) as is claimed by applicant's claim 5.

Claim Rejections - 35 USC § 103

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8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 2 rejected under 35 U.S.C. 103(a) as being unpatentable over Takamatsu as applied to claims 1, 4, and 5 above, and further in view of Shiraishi et al. (US 6,334,686.)

As described in more detail above Takamatsu teaches a projector which has the standard components (light source, light modulator, etc.) and also has a centrifugal fan which inhales air from around the light source and discharges it in a tangential direction to its rotating. The exhaled air travels down an exhaust duct having at least one bend and out an exhaust hole formed at the front of the casing for the projecting optical system. However, Takamatsu does not teach that the exhaust duct extends along at least two sides of the projector.

This structure, however, is well known. One example is given in figure 14 of Shiraishi et al. where the exhaust duct (174,175) connected to the discharge hole (part of fan next to 174) of a centrifugal fan (140) turns at a 90 degree angle (before ducts 101 and 203) in order to accommodate the limited size of the projector. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made in order to accommodate a larger duct means to make the duct extend along at least two sides of the inside casing as is commonly known to be done and as taught by Shiraishi, in Takamatsu's projecting device.

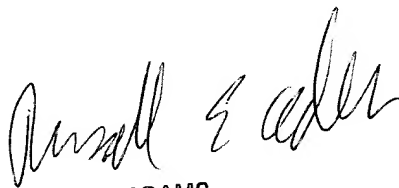
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Sever whose telephone number is 703-305-4036. The examiner can normally be reached M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russell Adams can be reached at 703-308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

AS
August 19, 2002


RUSSELL ADAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800